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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,515	10/26/2005	Ian E Kibblewhite	LOAD2 US	4336
7590 05/08/2007 Gary M Cohen Strafford Building Number Three 125 Strafford Avenue Suite 300 Wayne, PA 19087-3318			EXAMINER DUNLAP, JONATHAN M	
			ART UNIT 2855	PAPER NUMBER
			MAIL DATE 05/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,515

Applicant(s)

KIBBLEWHITE ET AL.

Examiner

Jonathan Dunlap

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 19-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :June 17, 2005/October26, 2005/July 31, 2006.

DETAILED ACTION

Receipt is acknowledged of Applicant's preliminary amendments to the Specification filed on March 18, 2005; October 31, 2005; and July 31, 2006. Also the preliminary amendment to the Abstract was also filed on March 18, 2005 and has been entered to the record. **Claims 1-38** are pending in this application. **Claims 19-38** have been withdrawn from consideration pursuant to the Election filed April 9, 2007. **Claims 1-18** remain pending in this application and an Office Action on the merits is to follow.

Election/Restrictions

1. Applicant's election with traverse of **Group I, Claims 1-9** in the reply filed on April 9, 2007 is acknowledged. The traversal is on the ground(s) that:

- The Examiner improperly relied upon PCT Rule 13.2 to require a "legal" combination of categories of invention.
- The features of independent claims provide the "technical relationship among those inventions involving one or more of the same or corresponding special technical features".

2. These arguments are not found persuasive for the following reasons:

With regard to the arguments that the Examiner improperly relied upon PCT Rule 13.2 to require a "legal" combination of categories of invention, unity of invention is not satisfied under 37 U.S.C. 1.475, and accordingly is not satisfied under PCT Rule 13.2 or

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13.1. As Applicant stated, 37 U.S.C. 1.475 (b) specifically highlights those combinations of categories of inventions to which the Examiner was referring.

Accordingly, "a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are **drawn only to one** of the following combinations of categories." **[Emphasis Added]** Specifically, **Groups I-VI** contained one apparatus, one process specially adapted for the manufacture of said product processes and two methods of measuring a load in a fastener. The statement of 37 U.S.C. 1.475 (b) is as follows:

- (b) An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:
 - (1) A product and a process specially adapted for the manufacture of said product; or
 - (2) A product and process of use of said product; or
 - (3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or
 - (4) A process and an apparatus or means specifically designed for carrying out the said process; or
 - (5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

Still further, MPEP 1850 states:

More extensive combinations than those set forth above should be looked at carefully to ensure that the requirements of both PCT Rule 13 (unity of invention) and PCT Article 6 (conciseness of claims) are satisfied. In particular, while a single set of independent claims according to one of (A), (B), or (C) above is always permissible, it does not require the International Authority to accept a plurality of such sets which could arise by combining the provisions of PCT Rule 13.3 (which provides that the determination of unity of invention be made without regard to whether the inventions are claimed in separate claims or as alternatives within a single claim), with the provisions set out above (thus resulting in a set based on each of a number of independent claims in the same category under PCT

Rule 13.3). The proliferation of claims arising from a combined effect of this kind should be accepted only exceptionally.

Accordingly, while the Applicant is permitted to file a single set of independent claims according to one of the statutory combinations of categories defined by 37 U.S.C. 1.475, the provisions of the remainder of PCT Rule 13 can not be violated during the practice of PCT Rule 13.3.

As a result of Applicant's request for the inclusion of **claims 10-18**, in accordance with the provisions of 37 U.S.C. 1.475 (b)(1), the elected **Group I** now contains **claims 1-18**.

With respect to the argument that the features of the independent **claims 1, 10, 19 and 29** provide the "technical relationship among those inventions involving one or more of the same or corresponding special technical features," the Examiner takes the position that under Rule 13.2, the application does not fulfill Rule 13.1 because no technical relationship is found "among the inventions involving one or more of the same or corresponding special technical features. The expression 'special technical features' shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art." [PCT Rule 13.2]

The Examiner takes this position for the following two reasons:

As stated by the Applicant on page 1 of the specifications filed, March 18, 2005, "Thread-forming fasteners are well known in many industries" and as stated on page 2 of the specification filed, March 18, 2005, "ultrasonic transducers, which can be permanently attached to one end of the fastener have come to be used...for example, in

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U.S. Patent No. 4,846,011" which is available as Prior Art under 102(b). Therefore, neither the thread-forming fastener nor the ultrasonic transducer are "special technical features" because they fail to contribute over the prior art as required to satisfy PCT Rule 13.2. **Claim 1** does not contain a single "special technical feature," and therefore, there cannot be a "technical relationship among those inventions involving one or more of the same or corresponding special technical features."

As stated by the Applicant, on page 4 of the Remarks, filed April 9, 2007, "applicant's independent claims 1, 10, 19 and 29...are direct to an ultrasonic transducer which is coupled with a thread-forming fastener." Conversely, **claim 29** is not directed towards a thread-forming fastener, but rather it is directed towards a thread-locking fastener, which has a fundamentally distinct mode of operation.

The requirement is still deemed proper and is therefore made FINAL.

Claims 19-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 9, 2007.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to

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identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. **Claims 1-5, 7, 10-14 and 16** are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of **claims 1-6 and 22-27** of copending Application No. 11/344028. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-5 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)**.

Considering **claim 1**, Fulmer discloses an apparatus comprising a thread-forming fastener including:

- A head **12** for engagement by a tool for applying a torque to the fastener **10** (Figure 1; Column 2, line 67); and

- A body portion **14** extending from the head **12** and including thread-forming portions **18** (**Figures 1-2; Column 2, line 68; Column 3, lines 7-9, lines 50-68; Column 4, lines 1-14**).

The invention by Fulmer fails to disclose an ultrasonic transducer coupled with the fastener, for making ultrasonic load measurements in the fastener.

7. However, Kibblewhite teaches an ultrasonic transducer **19** coupled with the fastener **10**, for making ultrasonic load measurements in the fastener **10** (**Figure 1; Column 7, lines 16-26; Column 8, lines 31-40**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to couple an ultrasonic transducer for load measurements to a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the load indicating member can be formed from a bolt, rod, rivet, stud or other suitable structural element" (**Column 6, lines 15-16**).

Considering **claim 2**, Fulmer fails to disclose that the ultrasonic transducer is coupled with the head of the fastener.

8. However, Kibblewhite teaches that the ultrasonic transducer **19** is coupled with the head **13** of the fastener **10** (**Figures 1-7; Column 7, lines 18-32; Column 8, lines 31-2, lines 38-40; Column 11, lines 45-48**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to couple an ultrasonic transducer for load measurements to the head of a fastener as taught by Kibblewhite in the invention by Fulmer. The

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motivation for doing so is to provide a location which both electrically and mechanically connects the fastener to a tightening tool for displaying load measurements as found in the teachings of Kibblewhite, "the tightening tool may be provided with a display device for displaying ultrasonic measurement of the tensile load, stress, elongation or member identification obtained during operation" and "the head is also provided with a wrenching or tool engagement surface, such as a hexagonal wrenching surface" (**Column 6, lines 24-50; Column 7, lines 29-31**).

Considering **claim 3**, Fulmer fails to disclose that the ultrasonic transducer is permanently attached to the fastener.

9. However, Kibblewhite teaches that the ultrasonic transducer **19** is permanently attached to the fastener **10** (**Column 3, lines 5-9**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to permanently couple an ultrasonic transducer to a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "to provide accurate tightening information during assembly, which can not come loose and cause an obstruction in or damage to a critical assembly" (**Column 3, lines 5-9**).

Considering **claim 4**, Fulmer fails to disclose that the ultrasonic transducer is comprised of a piezoelectric polymer film permanently attached to the head of the fastener.

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10. However, Kibblewhite teaches that the ultrasonic transducer **19** is comprised of a piezoelectric polymer film permanently attached to the head **13** of the fastener **10** (**Figure 2; Column 7, lines 42-48; Column 9, lines 58-61**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a piezoelectric polymer within an ultrasonic transducer as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "piezoelectric polymer materials...are, in theory, slightly more efficient than the materials of the present invention when used in ultrasonic pulse-echo applications" (**Column 10, lines 25-28**).

Considering **claim 5**, Fulmer fails to disclose that the ultrasonic transducer is comprised of an oriented piezoelectric thin film, vapor deposited directly on the head of the fastener.

11. However, Kibblewhite teaches that the ultrasonic transducer **19** is comprised of an oriented piezoelectric thin film, vapor deposited directly on the head **13** of the fastener **10** (**Column 4, lines 10-16**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an oriented piezoelectric thin film, vapor deposited directly on the head of a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the crystal inclination angle of piezoelectric oriented films can be controlled...through the control of inclination angle, the control of the fractional components of longitudinal and transverse ultrasonic waves," is feasible and through "the use of both longitudinal and

transverse waves...the measurement of stress in a member without taking a zero load measurement," is permitted (**Column 9, lines 9-24**).

Considering **claim 7**, Fulmer fails to disclose that the ultrasonic transducer is temporarily attached to the fastener.

12. However, Kibblewhite teaches that the ultrasonic transducer is temporarily attached to the fastener (**Column 1, lines 36-45**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a temporarily attached ultrasonic transducer with a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the prior art teachings include the notion of combining the measuring device with a tightening tool so that the information gained from measuring the elongation of the bolt can be used for determining when to shut off the tool" (**Column 1, lines 46-52**).

13. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)** and further in view of **Sanduja et al. (U.S. Patent 6,726,960)**.

The invention by Fulmer, as modified by Kibblewhite, fails to disclose that the ultrasonic transducer is chemically grafted on the head of the fastener.

14. However, Sanduja et al. teaches that ultrasonic transducer is chemically grafted on the head of the fastener (**Column 1, lines 9-15; Column 2, lines 45-56**).

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Therefore, it would have been obvious to one skilled in the art of bonding at the time the invention was made to chemically graft an ultrasonic transducer on the head of a fastener as taught by Sanduja in the invention by Fulmer, as modified by Kibblewhite. The motivation for doing so is found in both the teachings of Kibblewhite and Sanduja. According to Kibblewhite, "what is secondly desired is such ultrasonic transducer permanently attached to a fastener which can withstand the operating environment" (**Column 3, lines 10-12**). According to Sanduja, "grafting a protective coating onto metallic parts...not only protects the part from corrosion and other adverse effects of the environmental conditions of temperature...but also imparts an excellent degree of abrasion resistance." (**Column 1, lines 8-15**). Still further, according to Sanduja, "this process, using the composition specified, will have general utility in a number of applications...the superior bonding achieved will confer improved corrosion" (**Column 2, lines 52-55**).

15. **Claims 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)** and further in view of **Hoffmeister et al. (WO 00/63565)**.

The invention by Fulmer, as modified by Kibblewhite, fails to teach that the ultrasonic transducer further includes an information storage medium applied to the ultrasonic transducer and that the information storage medium is a bar code.

However, Hoffmeister teaches that the ultrasonic transducer further includes an information storage medium **4** applied to the ultrasonic transducer and that the

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information storage medium is a bar code (**Figure 1; Page 2, lines 24-36; Page 3, lines 1-35; Page 4, lines 1-14**).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a bar code as an information storage medium, applied to a ultrasonic transducer as taught by Hoffmeister in the invention by Fulmer, as modified by Kibblewhite. The motivation for doing so is to prevent the use of low-quality counterfeit fasteners, as taught by Hoffmeister (**Page 4, lines 16-28**).

16. **Claims 10-14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)**.

Considering **claim 1**, Fulmer discloses a method of making a load indicating, thread-forming fastener, comprising the steps of:

- Providing a fastener having:
 - A first end **12** including a surface for receiving an ultrasonic transducer, for making ultrasonic load measurements in the fastener **10**;
 - A shank **14** extending from the first end **12** and including thread-forming portions **18** for tapping a hole, and
 - A second end, opposite the first end and including a surface for reflecting an ultrasonic wave back to the first end **12** (**Figures 1-2; Column 2, lines 67-68; Column 3, lines 7-9, lines 50-68; Column 4, lines 1-14**).

The invention by Fulmer fails to disclose attaching an ultrasonic transducer to the first end of the fastener.

17. However, Kibblewhite teaches attaching an ultrasonic transducer **19** to the first end **13** of the fastener **10** (**Figure 1; Column 7, lines 16-26; Column 8, lines 31-40**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to couple an ultrasonic transducer to a first end of a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the load indicating member can be formed from a bolt, rod, rivet, stud or other suitable structural element" (**Column 6, lines 15-16**).

Considering **claim 11**, Fulmer fails to disclose attaching the ultrasonic transducer to a head associated with the first end of the thread forming fastener, for engagement by a tool for applying a torque to the fastener.

18. However, Kibblewhite teaches attaching the ultrasonic transducer to a head **13** associated with the first end of the thread forming fastener, for engagement by a tool for applying a torque to the fastener (**Figures 1-7; Column 7, lines 18-32; Column 8, lines 31-2, lines 38-40; Column 11, lines 45-48**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to couple an ultrasonic transducer for load measurements to the head of a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is to provide a location which both electrically and mechanically connects the fastener to a tightening tool for displaying load measurements as found in

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the teachings of Kibblewhite, "the tightening tool may be provided with a display device for displaying ultrasonic measurement of the tensile load, stress, elongation or member identification obtained during operation" and "the head is also provided with a wrenching or tool engagement surface, such as a hexagonal wrenching surface" (**Column 6, lines 24-50; Column 7, lines 29-31**).

Considering **claim 12**, Fulmer fails to disclose permanently attaching the ultrasonic transducer to the fastener.

However, Kibblewhite teaches that the ultrasonic transducer **19** is permanently attached to the fastener **10** (**Column 3, lines 5-9**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to permanently couple an ultrasonic transducer to a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "to provide accurate tightening information during assembly, which can not come loose and cause an obstruction in or damage to a critical assembly" (**Column 3, lines 5-9**).

Considering **claim 13**, Fulmer fails to disclose permanently attaching an ultrasonic transducer comprised of a piezoelectric polymer film to the first end of the fastener.

However, Kibblewhite teaches permanently attaching an ultrasonic transducer **19** comprised of a piezoelectric polymer film to the first end **13** of the fastener **10** (**Figure 2; Column 7, lines 42-48; Column 9, lines 58-61**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a piezoelectric polymer within an ultrasonic transducer as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "piezoelectric polymer materials...are, in theory, slightly more efficient than the materials of the present invention when used in ultrasonic pulse-echo applications" (**Column 10, lines 25-28**).

Considering **claim 14**, Fulmer fails to disclose vapor depositing an ultrasonic transducer comprised of an oriented piezoelectric thin film directly onto the first end of the fastener.

19. However, Kibblewhite teaches that the ultrasonic transducer **19** is comprised of an oriented piezoelectric thin film, vapor deposited directly on the head **13** of the fastener **10** (**Column 4, lines 10-16**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an oriented piezoelectric thin film, vapor deposited directly on the head of a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the crystal inclination angle of piezoelectric oriented films can be controlled...through the control of inclination angle, the control of the fractional components of longitudinal and transverse ultrasonic waves," is feasible and through "the use of both longitudinal and transverse waves...the measurement of stress in a member without taking a zero load measurement," is permitted (**Column 9, lines 9-24**).

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Considering **claim 16**, Fulmer fails to disclose temporarily attaching the ultrasonic transducer to the fastener.

20. However, Kibblewhite teaches that the ultrasonic transducer is temporarily attached to the fastener (**Column 1, lines 36-45**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a temporarily attached ultrasonic transducer with a fastener as taught by Kibblewhite in the invention by Fulmer. The motivation for doing so is found in the teachings of Kibblewhite, "the prior art teachings include the notion of combining the measuring device with a tightening tool so that the information gained from measuring the elongation of the bolt can be used for determining when to shut off the tool" (**Column 1, lines 46-52**).

21. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)** and further in view of **Sanduja et al. (U.S. Patent 6,726,960)**.

The invention by Fulmer, as modified by Kibblewhite, fails to disclose chemically grafting an ultrasonic transducer onto the first end of the fastener

22. However, Sanduja et al. teaches chemically grafting an ultrasonic transducer onto the first end of the fastener (**Column 1, lines 9-15; Column 2, lines 45-56**).

Therefore, it would have been obvious to one skilled in the art of bonding at the time the invention was made to chemically graft an ultrasonic transducer on the head of a fastener as taught by Sanduja in the invention by Fulmer, as modified by Kibblewhite.

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The motivation for doing so is found in both the teachings of Kibblewhite and Sanduja. According to Kibblewhite, "what is secondly desired is such ultrasonic transducer permanently attached to a fastener which can withstand the operating environment" (**Column 3, lines 10-12**). According to Sanduja, "grafting a protective coating onto metallic parts...not only protects the part from corrosion and other adverse effects of the environmental conditions of temperature...but also imparts an excellent degree of abrasion resistance." (**Column 1, lines 8-15**). Still further, according to Sanduja, "this process, using the composition specified, will have general utility in a number of applications...the superior bonding achieved will confer improved corrosion" (**Column 2, lines 52-55**).

23. **Claims 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fulmer (U.S. Patent 5,242,253)** in view of **Kibblewhite (U.S. Patent 5,131,276)** and further in view of **Hoffmeister et al. (WO 00/63565)**.

The invention by Fulmer, as modified by Kibblewhite, fails to teach applying an information storage medium to the ultrasonic transducer, wherein the information storage medium includes markings corresponding to data associated with the fastener and applying a bar code to the ultrasonic transducer.

24. However, Hoffmeister teaches that the ultrasonic transducer further includes an information storage medium **4** applied to the ultrasonic transducer and that the information storage medium is a bar code (**Figure 1; Page 2, lines 24-36; Page 3, lines 1-35; Page 4, lines 1-14**).

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Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a bar code as an information storage medium, applied to a ultrasonic transducer as taught by Hoffmeister in the invention by Fulmer, as modified by Kibblewhite. The motivation for doing so is to prevent the use of low-quality counterfeit fasteners, as taught by Hoffmeister (**Page 4, lines 16-28**).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kibblewhite ('**001**) discloses similar apparatuses as claimed.

Duval ('**185**) discloses a bar code affixed to the top of a fastener.

Bras ('**525**) discloses a piezoelectric transducer affixed to the top of a bolt.

d'Agraives et al. ('**048**) discloses an information storage means attached to a bolt which can be read ultrasonically.

Hoffmeister et al. ('**628**) is provided as an English translation of **WO 00/63565**

Adams (**NPL – 2-Dimesional Bar Code**) discloses several information storage mediums that are bar codes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Dunlap whose telephone number is (571) 270-1335. The examiner can normally be reached on M-F 8-5 with every other Friday off.

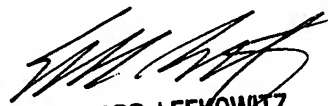
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Dunlap
Examiner
AU 2855
April 27, 2007



EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800